CHAPTER 10

CERTIFIED DUAL-POINT RIGGING PROCEDURES FOR SHELTERS

10-1. INTRODUCTION

This chapter contains rigging procedures for dual-point lift of shelters that have been certified for sling load. Each rigging procedure is found in a paragraph that includes a description of the load, materials required for rigging, and steps to complete the procedure. An applicability paragraph is also a part of each paragraph and identifies the certified loads. The certified dual-point rigging procedures for shelters are in this section. Paragraphs 10-2 through 10-12 give detailed instructions for rigging loads.

NOTE: Reach Pendants may be used on dual point loads. Place a Reach Pendant on each apex fitting. A static discharge person is not required when using a Reach Pendant.

10-2. Communication or Electronic Systems Housed in S-250 Shelters

a. Applicability. The following items in Table 10-1 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-1. S-250 Shelters

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Sartellite Communications Shelter, AN/TSC-93B (V)1 or (V)2	3,250	10K	33/3	CH-47	100
Operation Control Group, AN/TPQ-36 Firefinder, Block II	2,200	10K	33/3	CH-47	90

b. Materials. The following materials are required to rig this load:

(1) Sling set (10,000-pound capacity) with one additional apex fitting.

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 10 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Remove and store all externally mounted equipment inside the shelter.

(b) Close and secure all doors, vents, hatches, and caps with tape or Type III nylon cord.

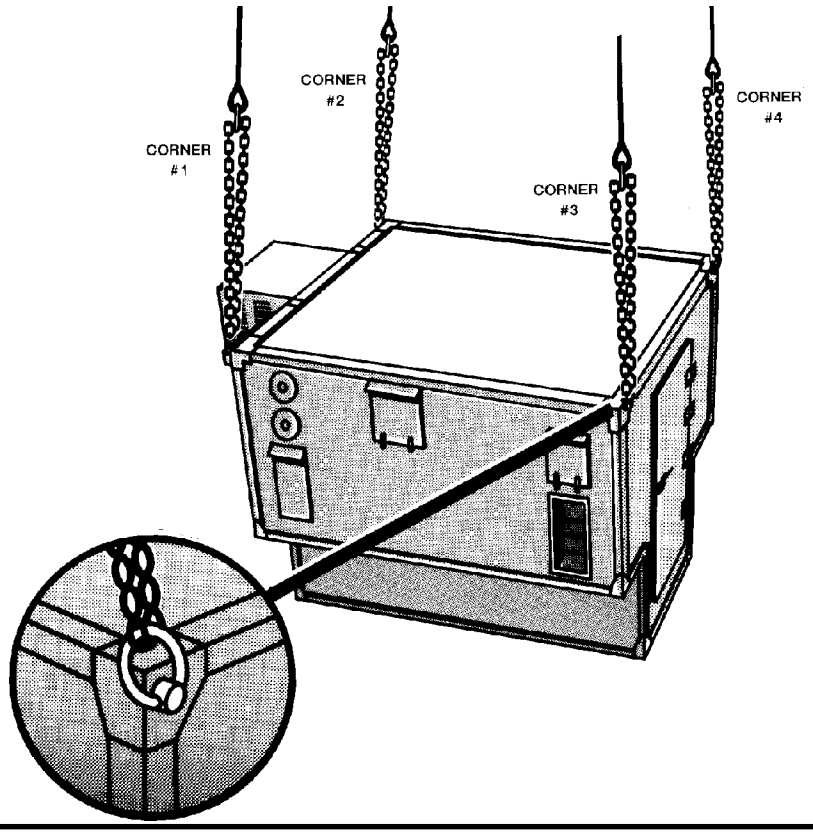
(c) Secure the Environmental Control Unit's cover with Type III nylon cord.

(2) Rigging. Rig the load according to the steps in Figure 10-1.

(3) Hookup. Two hookup teams stand on the roof of the shelter. The static discharge person discharges the static electricity. The forward hookup person (ECU end) places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the dozer and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the ECU end of the shelter.

2. Loop the chain end of the left and right sling legs through the front and side of their respective lift provisions located on the shelter corners. Place the correct link from Table 10-1 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the door end.

4. Loop the chain end of the left and right sling legs through the rear and side of their respective lift provisions located on the top shelter corners. Place the correct link from Table 10-1 in the grab hook.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-1. S-250 Shelters

10-3. Communication or Electronic Systems Housed in Lightweight Multipurpose Shelter (LMS)

a. Applicability. The following items in Table 10-2 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-2. Lightweight Multipurpose Shelter

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Operations Central Shelter, Firefinder, AN/TPQ-36(V)8, S-788	2,869	10K	ECU is the Front 20/3	CH-47	80
Biological Agent, Automatic, Integrated, Detection System, S-788	3,300	10K	Door is the Front 3/15	CH-47	100
Downsized Direct Support Section, Standard Integrated Command Post Systems, S-787/S-788	2,400	10K	ECU is the Front 3/3	CH-47 CH-53	70

b. Materials. The following materials are required to rig this load:

(1) Sling set (10,000-pound capacity) with one additional apex fitting.

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Three persons can prepare and rig this load in 15 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all loose equipment inside the shelter with tape or Type III nylon cord.

(b) Close and secure all doors, vents, hatches, and caps with tape or Type III nylon cord.

(c) Secure the Environmental Control Unit's cover with tape or Type III nylon cord. Ensure the ECU frame mounting bolts are tight.

(d) Remove the SINGARS antennas and store and secure inside the shelter.

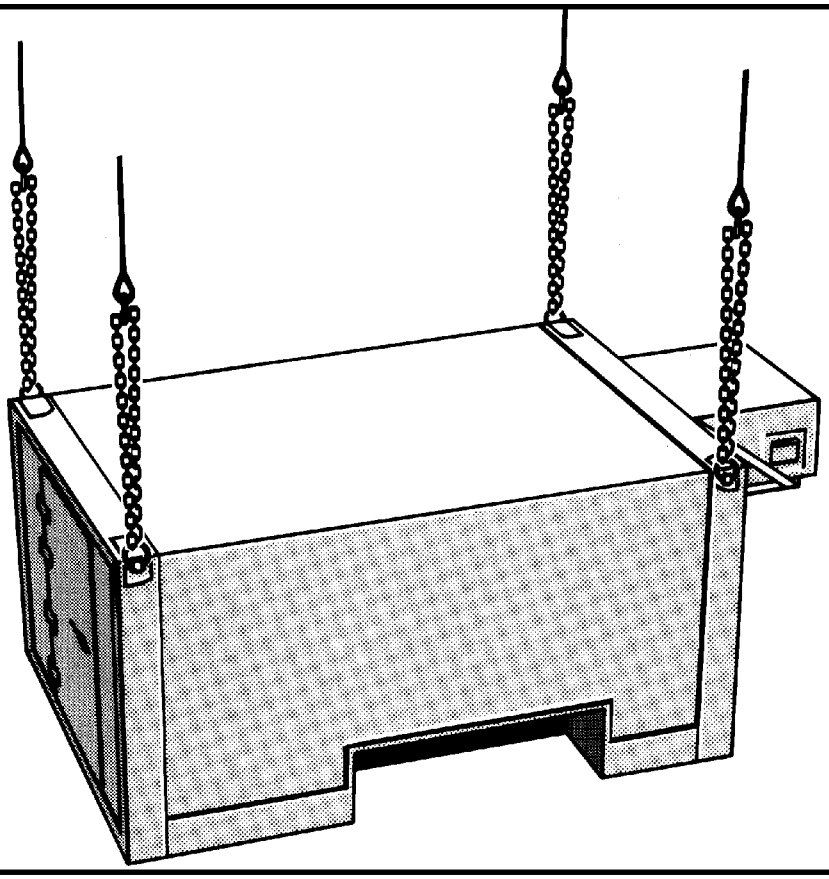
(e) Tie the front and aft lift provisions in the upright position.

(2) Rigging. Rig the load according to the steps in Figure 10-2.

(3) Hookup. Two hookup teams stand on the roof of the shelter. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the shelter.

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the front of the shelter. Place the correct link from Table 10-2 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the door end.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the rear of the shelter. Place the correct link from Table 10-2 in the grab hook.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-2. Lightweight Multipurpose Shelter

10-4. Communication or Electronic Systems Housed in S-280 Shelters

a. Applicability. The following items in Table 10-3 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-3. S-280 Shelters

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Multiplexer Terminal Set, AN/TSQ-146(V)	6,190	10K	Door is Front 5/50	CH-47	120
Battery Servicing Shelter, AN/TSM-133	5,420	10K	Door is Front 3/30	CH-47	130
Repeater Set, Radio, AN/TRC-138A	4,720	10K	ECU is Front 3/32	CH-47	80
Radio Terminal Set, AN/TRC-173	3,790	10K	ECU is Front 3/32	CH-47	80
Repeater Set, Radio, AN/TRC-174	4,100	10K	ECU is Front 3/32	CH-47	80
Radio Terminal Set, AN/TRC-175	4,690	10K	ECU is Front 3/32	CH-47	80
Regency Net Force Terminal, AN/TRC-179(V)1	8,200	10K	Door is Front 3/30	CH-47	110
Meteorological Data System (MDS)	4,750	10K	ECU is Front 3/35	CH-47	130
Position Location Reporting System Master Station, AN/TSQ-129	6,050	15K	ECU is Front 3/25	CH-53	100
Enhanced Position Location Reporting System, Net Control Station, AN/TSQ-158	6,289	15K	ECU is Front 3/33	CH-53	100
Tactical Satellite Communications Terminal, AN/TSC-85B	6,200	10K	Door is Front 3/33	CH-47	100
IFTE Base Shop Test Facility, (BSTF), Basic, S-280C/G, AN/TSM-191(V)3	7,806	10K	ECU is Front 3/3	CH-47	120
IFTE Base Shop Test Facility, (BSTF), HAWK, S-280C/G, AN/TSM-191(V)2	7,748	10K	ECU is Front 3/3	CH-47	120

Table 10-3. S-280 Shelters (continued)

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
IFTE 60 Hz Storage Shelter, S-280C/G, S-744/TSM-191V	6,365	10K	ECU is Front 3/3	CH-47	110
IFTE 400 Hz Storage Shelter, S-280C/G, S-175/TSM-191V	5,119	10K	ECU is Front 3/3	CH-47	110
Communications Nodal Control Element (CNCE), AN/TSQ-111	10,000	25K	Door is Front 3/24	CH-47	120
Airborne Reconnaissance Low-Imagery (ARL-I), and Airborne Reconnaissance Low-Comint (ARL-C), Fly Away Kits, Types A1/B1/C1	8,500	10K	ECU is Front 3/15	CH-47	80
Joint Stars MGSM LRIP Shelter System, OA-9408/TSQ-168(V)1	8,700	10K	Door is Front 3/30	CH-47	100
E0145 Bottle Cleaning and Charging Station	6,400	15K	Door is Front 3/25	CH-53	70
E1022 Maintenance Facility Night Sight	6,400	15K	Door is Front 3/25	CH-53	70
Central Office, Telephone, Automatic, AN/TTC-42(V)	5,700	15K	Door is Front 3/25	CH-53	60
Airborne Mobile Direct Air Support Central (DASC), AN/UYQ-3A	5,600	15K	Door is Front 3/25	CH-53	60
AN/TYA-16B	3,325	15K	Door is Front 3/3	CH-53	60

b. Materials. The following materials are required to rig this load:

(1) Sling set (as listed in Table 10-3) with one additional apex fitting.

OR

(2) Sling set (15,000-pound capacity) (2 each).

(3) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(4) Cord, nylon, Type III, 550-pound breaking strength.

(5) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

(6) Webbing, nylon, tubular, 1/2-inch, 1000-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 15 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all loose equipment inside the shelter with tape or Type III nylon cord.

(b) Close and secure all doors, vents, hatches, and caps with tape or Type III nylon cord.

(c) Secure the Environmental Control Unit's cover with tape or Type III nylon cord. Ensure the ECU frame mounting bolts are tight.

(d) Secure any external hoses, cables, ladders, and power unit components with tape or Type III nylon cord.

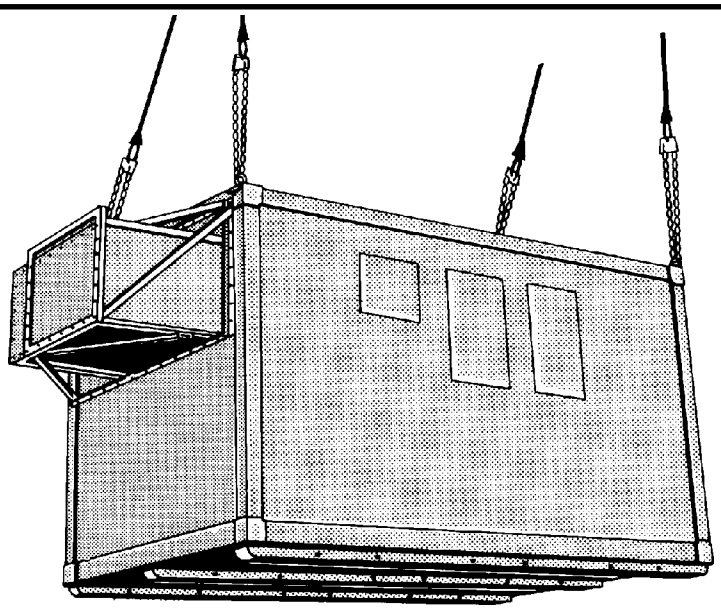
(e) Tie the front and aft lift provisions in the upright position.

(2) Rigging. Rig the load according to the steps in Figure 10-3.

(3) Hookup. Two hookup teams stand on the roof of the shelter. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the shelter.

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-3 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the shelter.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-3 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-3. S-280 Shelters

10-5. 8-x 8-x 10-Foot Shelters

a. Applicability. The following items in Table 10-4 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-4. 8-x 8-x 10-Foot Shelters

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
EMI, TAMCN C6110	7,700 Full Weight Only	15K	Door is Front 5/5	CH-53	50
Electronic EMI HSOP Shelter	4,140	15K	Door is Front 10/3	CH-53	50
Air Radar Shelter, AN/TPS-73	14,500	40K	Door is Front 3/12	CH-53	50
Air Radar Shelter, AN/TPS-63B	7,360	15K	Door is Front 3/20	CH-53	70
Rigid EMD Communications Shelter	Required 7,000	15K	Door is Front 3/3	CH-53	50

b. Materials. The following materials are required to rig this load:

(1) Sling set (40,000-pound capacity) with one additional apex fitting.

OR

(2) Sling set (15,000-pound capacity) (2 each).

(3) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(4) Cord, nylon, Type III, 550-pound breaking strength.

(5) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 15 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all loose equipment inside the shelter with tape or Type III nylon cord.

(b) Close and secure all doors, vents, hatches, and caps with tape or Type III nylon cord.

(c) Secure the Environmental Control Unit's cover with tape or Type III nylon cord. Ensure the ECU frame mounting bolts are tight.

(d) Secure any external hoses, cables, ladders, and power unit components with tape or Type III nylon cord.

(2) Rigging. Rig the load according to the steps in Figure 10-4.

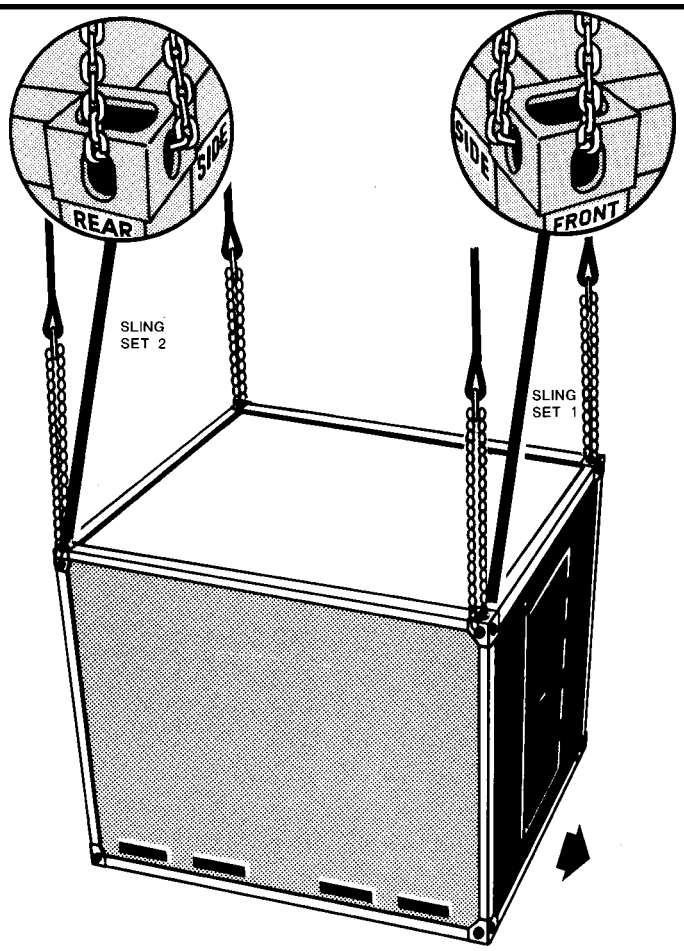
NOTE: When using the 15,000-pound capacity multileg sling set, tie or tape the inner sling legs to the outer sling legs.

(3) Hookup. Two hookup teams stand on the roof of the shelter. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The

hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the shelter.

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-4 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the shelter.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-4 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-4. 8-x 8-x 10-Foot Shelters

10-6. 8-x 8-x 20-Foot Shelters

a. Applicability. The following items in Table 10-5 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-5. 8-x 8-x 20-Foot Shelters

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Communications Central, AN/TGC-37	16,733	40K	Door is Aft 30/30	CH-53	80
Rigid Shelter, General Purpose, TAMCN C6122	15,000	40K	Door is Front 10/5	CH-53	75
Electromechanical Induction (EMI)	15,000	40K	Door is Front 10/5	CH-53	70
Tactical Air Operations Module (TAOM), AN/TYQ-23	16,175	40K	Door is Front 16/3	CH-53	100
Tactical Air Operations Module (TAOM), AN/TYQ-23, Up Graded	15,187	40K	Door is Front 16/3	CH-53	100
Maintenance Repair Group Shelter, AN/TSM-170	10,900	15K	Door is Front 31/3	CH-53	90
Radar Surveillance Center, AN/TSQ-107	9,950	15K	Door is Front 21/3	CH-53	70
Control and Communications Shelter, AN/TSQ-131	14,050	40K	Door is Front 21/3	CH-53	80
Non-Divisional AVIM Shop, Machine/ Welding Shop	Min-11,000 Max-13,200	25K	5/5	CH-47	120
Non-Divisional AVIM Shop, Pneudraulics Shop	Min-11,000 Max-13,200	25K	5/5	CH-47	120
Non-Divisional AVIM Shop, Power Train Shop	Min-11,000 Max-13,200	25K	Door is Aft 5/5	CH-47	120
Non-Divisional AVIM Shop, Engine Shop	Min-11,000 Max-13,200	25K	Door is Aft 5/5	CH-47	120
Non-Divisional AVIM Shop, Sheet Metal / Paint Shop	Min-11,000 Max-13,200	25K	Door is Aft 5/5	CH-47	120
Non-Divisional AVIM Shop, Tool Crib Shop	Min-11,000 Max-13,200	25K	Door is Aft 5/5	CH-47	120
Non-Divisional AVIM Shop, Propeller / Rotor Shop	Min-11,000 Max-13,200	25K	Door is Aft 5/5	CH-47	120

Table 10-5. 8-x 8-x 20-Foot Shelters (continued)

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Non-Divisional AVIM Shop, Electrical / Instrument Shop	Min-11,000 Max-13,200	25K	Door is Aft 5/5	CH-47	120
Non-Divisional AVIM Shop, Produection / Quality Control Shop	Min-11,000 Max-13,200	25K	Door is Aft 5/5	CH-47	120
AN/TSQ-108A(V)2	13,050	15K	ECU is Aft 3-20	CH-53	80
Improved Direct Air Support Center	10,000	15K	Door is Front 9-Left Side 3-Right Side	CH-53	70
Shop Set, Maintenance Facility Night Sight, E1713	8,400	15K	Door is Front 3/35	CH-53	80
Shop Set, Maintenance Artillery, E1712	8,400	15K	Door is Front 3/35	CH-53	80
Shop Set, Maintenance Small Arms, E1714	8,400	15K	Door is Front 3/40	CH-53	80
Trojan Transportable Mini-Switch (TTMS) ISO Shelter	14,700	25K	Door is Front 3/3	CH-47	75
EMI, EMC, S717T, Communications, TAMCN A2336	6,400	15K	Door is Front 3/3	CH-53	80
Non-Expandable Communications, TAMCN A2337	10,000	15K	Door is Front 3/3	CH-53	80
Tactical Reconnaissance Processing Evaluation System (TERPES)	13,200	15K	Door is Front 15/3	CH-53	80
Trojan Air Transportable Electronic Reconnaissance System (TATERS), SCINS Communications Subsystem Shelter	13,320	25K	Data Plate is Front 3/20	CH-47	110
Trojan Air Transportable Electronic Reconnaissance System (TATERS), CHIPS Receiver Group Shelter	14,220	25K	Data Plate is 3/20	CH-47	90
Trojan Air Transportable Electronic Reconnaissance System (TATERS), PEELS Electric Power Plant Shelter	15,100	25K	Data Plate is Front 3/20	CH-47	80
Trojan Air Transportable Electronic Reconnaissance System (TATERS), TOTS Nonexpandable Shelter	10,720	25K	Data Plate is Front 3/20	CH-47	60

b. Materials. The following materials are required to rig this load:

(1) Sling set (as listed in Table 10-5) with one additional apex fitting.

OR

(2) Sling set (15,000-pound capacity) (2 each).

(3) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(4) Cord, nylon, Type III, 550-pound breaking strength.

(5) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 20 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all loose equipment inside the shelter with tape or Type III nylon cord.

(b) Close and secure all doors, vents, hatches, and caps with tape or Type III nylon cord.

(c) Secure the Environmental Control Unit's cover with tape or Type III nylon cord. Ensure the ECU frame mounting bolts are tight.

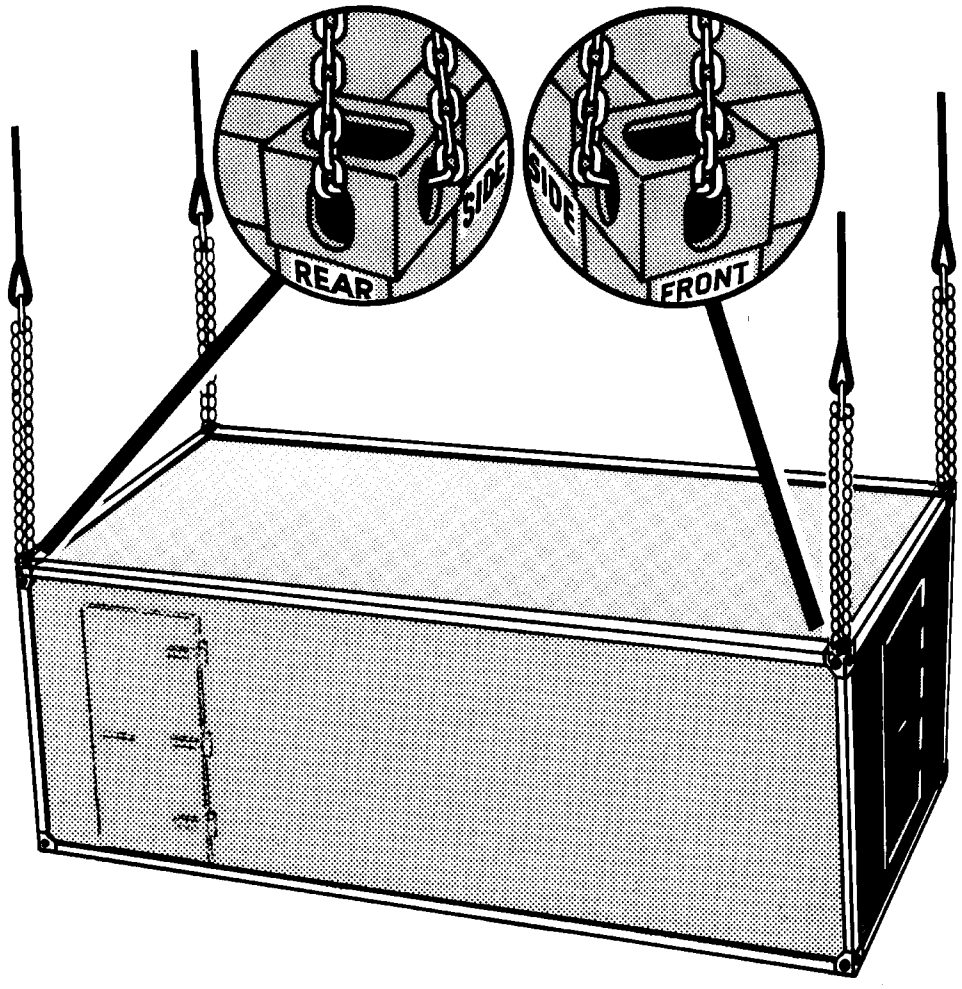
(2) Rigging. Rig the load according to the steps in Figure 10-5.

NOTE: When using the 15,000-pound capacity multileg sling set, tie or tape the inner sling legs to the outer sling legs.

(3) Hookup. Two hookup teams stand on the roof of the shelter. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the shelter.

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the front shelter corners. Place the correct link from Table 10-5 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the shelter.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the aft shelter corners. Place the correct link from Table 10-5 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-5. 8-x 8-x 20-Foot Shelters

10-7. AN/TYC-5A Data Communications Terminal

a. Applicability. The following item in Table 10-6 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-6. AN/TYC-5A Data Communications Terminal

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Data Communications Terminal, AN/TYC-5A	7,451	15K	Door is Front 5/20	CH-53	50

b. Materials. The following materials are required to rig this load:

(1) Sling set (15,000-pound capacity) (2 each).

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 10 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all loose equipment inside the shelter with tape or Type III nylon cord.

(b) Close and secure all doors, vents, hatches, and caps with tape or Type III nylon cord.

(c) Remove the transporter dolly lift sets if attached to the shelter.

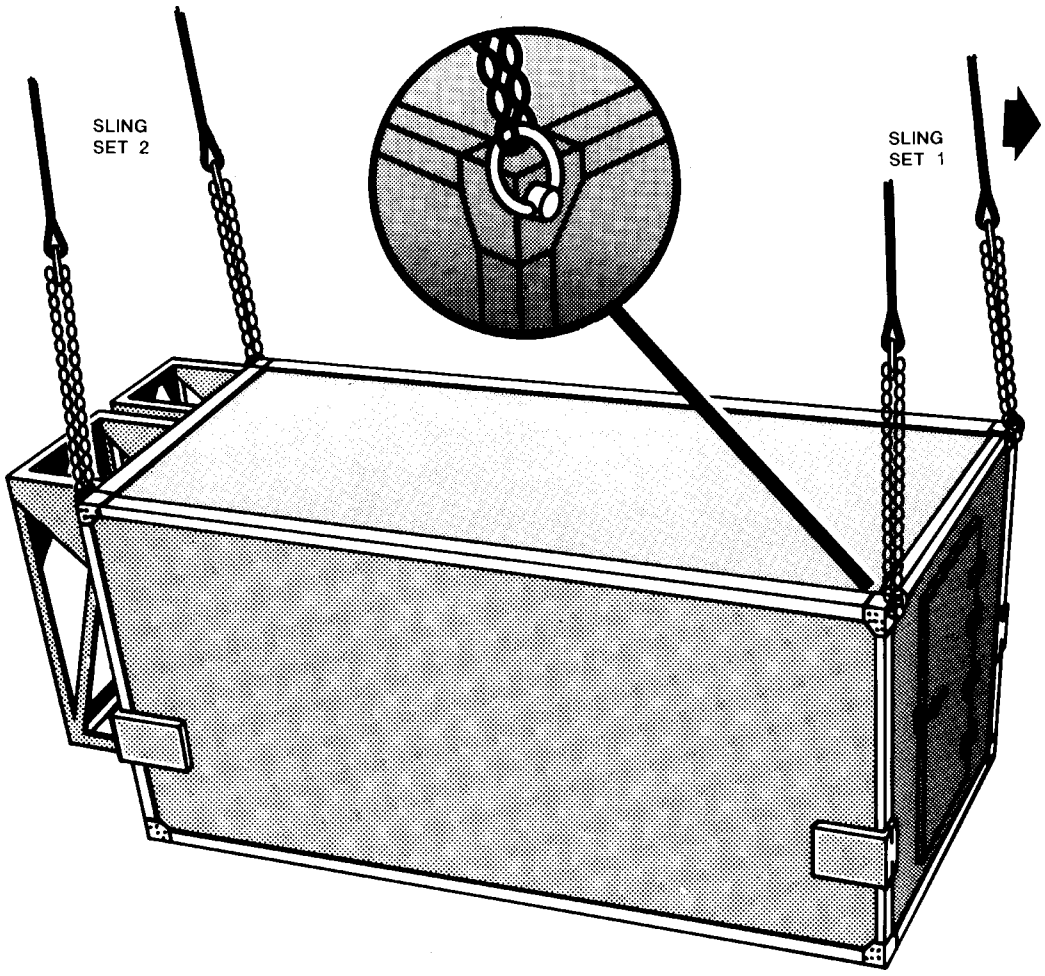
(2) Rigging. Rig the load according to the steps in Figure 10-6.

NOTE: When using the 15,000-pound capacity multileg sling set, tie or tape the inner sling legs to the outer sling legs.

(3) Hookup. Two hookup teams stand on the roof of the shelter. The static discharge person discharges the static electricity. The forward hookup person (door end) places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Position sling set number 1 on top of the door end of the shelter.

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-6 in the grab hook.

3. Position sling set number 2 on top of the shelter.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-6 in the grab hook.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-6. AN/TYC-5A Data Communications Terminal

10-8. Shelter, Knockdown, 8- x 8- 20-Foot

a. Applicability. The following item in Table 10-7 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-7. Shelter, Knockdown, 8- x 8- 20-Foot

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Shelter, Knockdown, 8- x 8- 20-Foot	3,800	15K	5/10	CH-53	110

b. Materials. The following materials are required to rig this load:

(1) Sling set (15,000-pound capacity) (2 each).

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 10 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Ensure the shelter is properly knocked down and secured.

(b) Secure the knockdown shelter corner pins with tape.

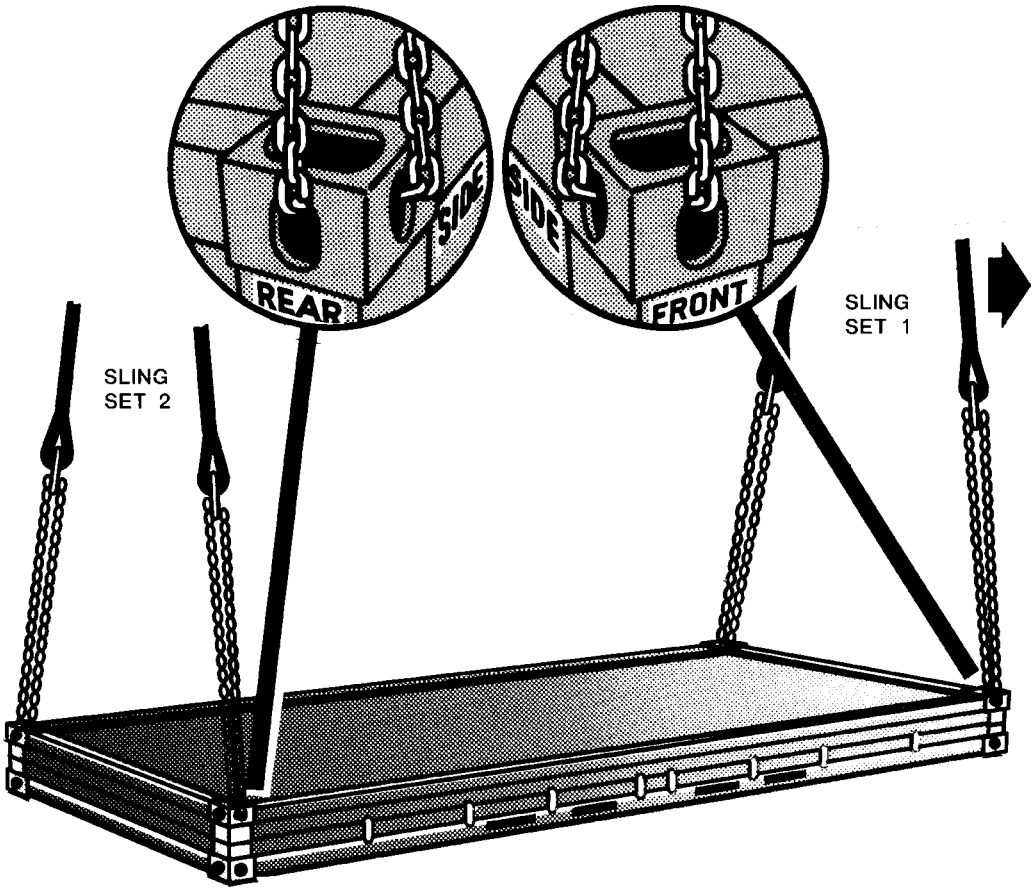
(2) Rigging. Rig the load according to the steps in Figure 10-7.

NOTE: When using the 15,000-pound capacity multileg sling set, tie or tape the inner sling legs to the outer sling legs.

(3) Hookup. Two hookup teams stand on the shelter. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Position sling set number 1 on top of the shelter.

2. Loop the chain end of the left and right sling legs through the side and out the front of their respective lift provisions located on the shelter corners. Place the correct link from Table 10-7 in the grab hook.

3. Position sling set number 2 on top of the shelter.

4. Loop the chain end of the left and right sling legs through side and out the rear of their respective lift provisions located on the shelter corners. Place the correct link from Table 10-7 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-7. Shelter, Knockdown, 8- x 8- 20-Foot

10-9. Jam-Resistant Secure Communications (JRSC) Satellite Communications Terminal with Mobilizer

a. Applicability. The following item in Table 10-8 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-8. Jam-Resistant Secure Communications (JRSC) Satellite Communications Terminal

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Jam-Resistant Secure Communications (JRSC) Satellite Communications Terminal in Modified S-280 Shelter	20,730	25K	Door is Front 10/30	CH-47	60

b. Materials. The following materials are required to rig this load:

(1) Sling set (25,000-pound capacity) with one additional apex fitting.

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

(5) Webbing, tubular, nylon, 1/2-inch, 1,000-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 10 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Raise and stow mobilizer wheels.

(b) Stow the mobilizer tongue in the up position using safety chain and Type III nylon cord. Secure the hoses and jack handles with tape or Type III nylon cord.

(c) Secure the mobilizer wheel assemblies to the shelter lift eyes. Route an end of 1/2-inch tubular nylon through the cutout in the mobilizer wheel rim and pass it through the shelter lift eye. Tie the ends together with a square knot and an overhand knot in each running end.

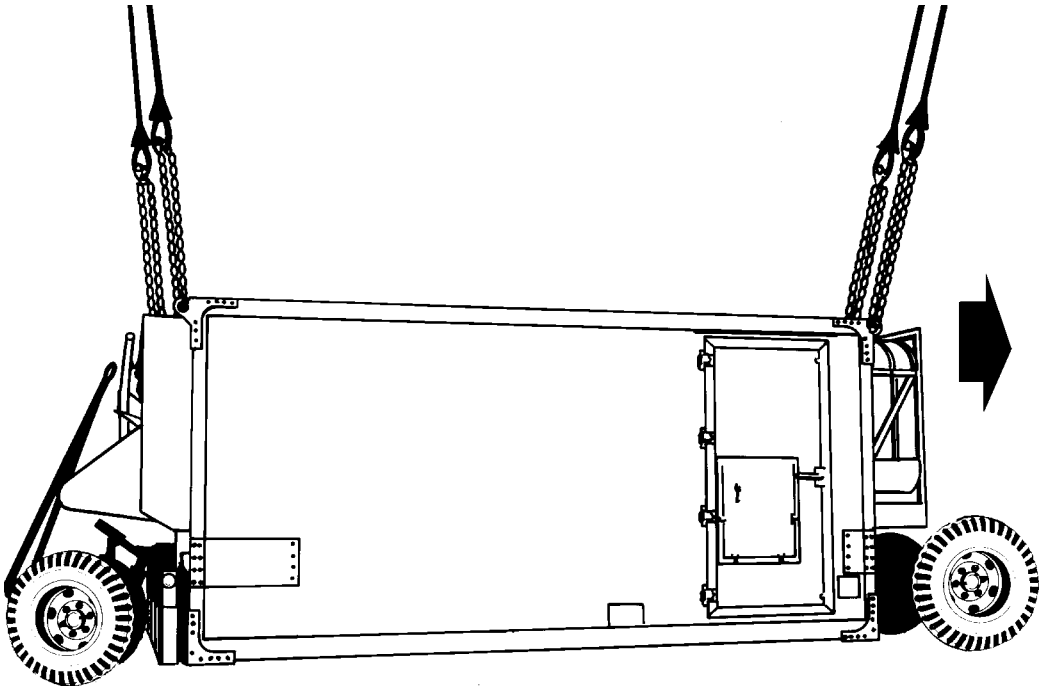
(d) Close and secure all doors, vents, and caps.

(2) Rigging. Rig the load according to the steps in Figure 10-8.

(3) Hookup. Two hookup teams stand on the shelter. The static discharge person discharges the static electricity. The forward hookup person stands on the door end of the shelter and places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the shelter (door end).

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-8 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the shelter.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-8 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-8. Jam-Resistant Secure Communications (JRSC) Satellite Communications Terminal

10-10. Downsized Digital Group Multiplexer (DGM) Assemblages

a. Applicability. The following items in Table 10-9 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-9. Downsized Digital Group Multiplexer (DGM) Assemblages

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
AN/TRC-173A	3,500	10K	3/3	CH-47	100
AN/TRC-174A	3,425	10K	3/3	CH-47	100
AN/TRC-175A	3,350	10K	3/3	CH-47	100
AN/TRC-138B	3,525	10K	3/3	CH-47	100
AN/TRC-138C	3,430	10K	3/3	CH-47	100

b. Materials. The following materials are required to rig this load:

(1) Sling set (10,000-pound capacity) with one additional apex fitting.

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 20 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Ensure all internal equipment is properly stowed.

(b) Secure all cabinet drawers and doors with tape or Type III nylon cord.

(c) Secure all outer doors with tape.

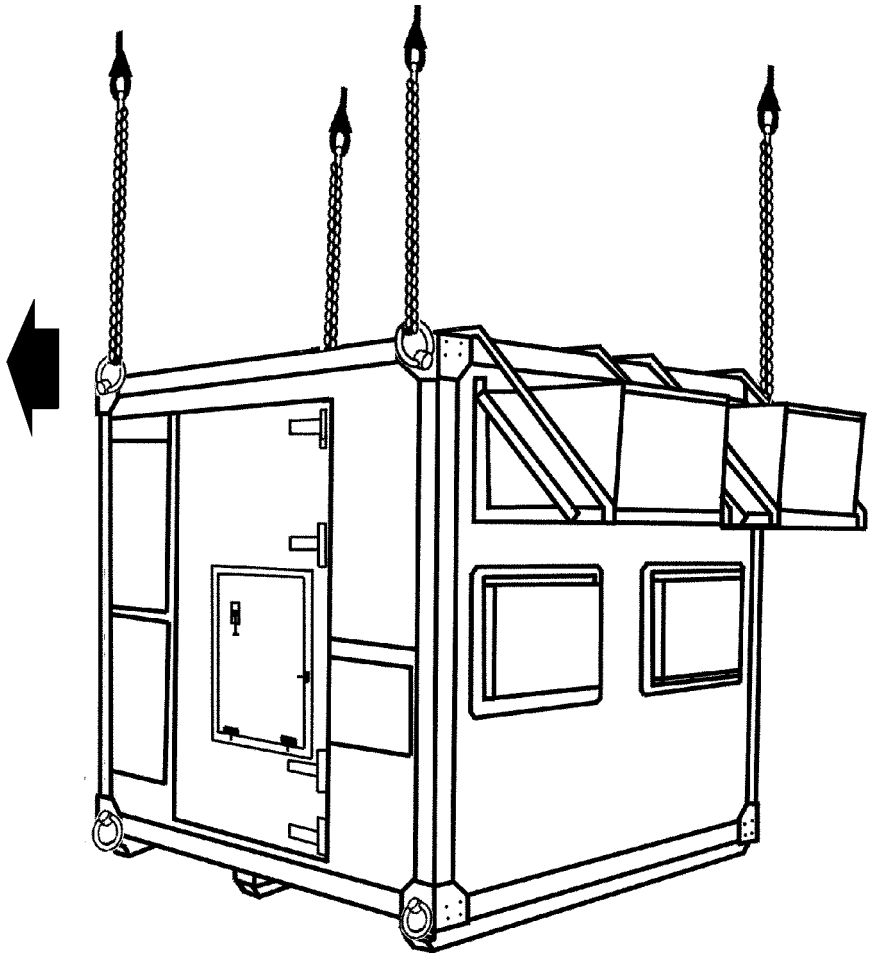
(d) Secure the ECU cover with tape or Type III nylon cord.

(2) Rigging. Rig the load according to the steps in Figure 10-9.

CAUTION
These loads are certified for the center and aft hooks only. Pilots must ensure that hook jettisoning switches are engaged for center and aft hooks. DO NOT USE THE FORWARD HOOK.

(3) Hookup. Two hookup teams stand on the shelter. The static discharge person discharges the static electricity. The forward hookup person stands on the roadside door end of the shelter and places apex fitting 1 onto the center cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. **DO NOT USE THE FORWARD HOOK.** The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the shelter.

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-9 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the shelter.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the shelter corners. Place the correct link from Table 10-9 in the grab hook.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-9. Downsized Digital Group Multiplexer (DGM) Assemblages

10-11. NATO Airbase Satcom (NABS) Shelter Pallet, AN/TSC-93B(V)2

a. Applicability. The following item in Table 10-10 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-10. NATO Airbase Satcom (NABS) Shelter Pallet, AN/TSC-93B(V)2

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
NATO Airbase Satcom (NABS) Shelter Pallet, AN/TSC-93B(V)2	5,751	10K	3/3	CH-47	130

b. Materials. The following materials are required to rig this load:

(1) Sling set (10,000-pound capacity) with one additional apex fitting.

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 20 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all loose equipment on the pallet and in the shelter with tape or Type III nylon cord.

(b) Close and secure all doors, vents, and covers. Tape all exhaust covers.

(c) Remove the cargo cover and secure it inside the shelter.

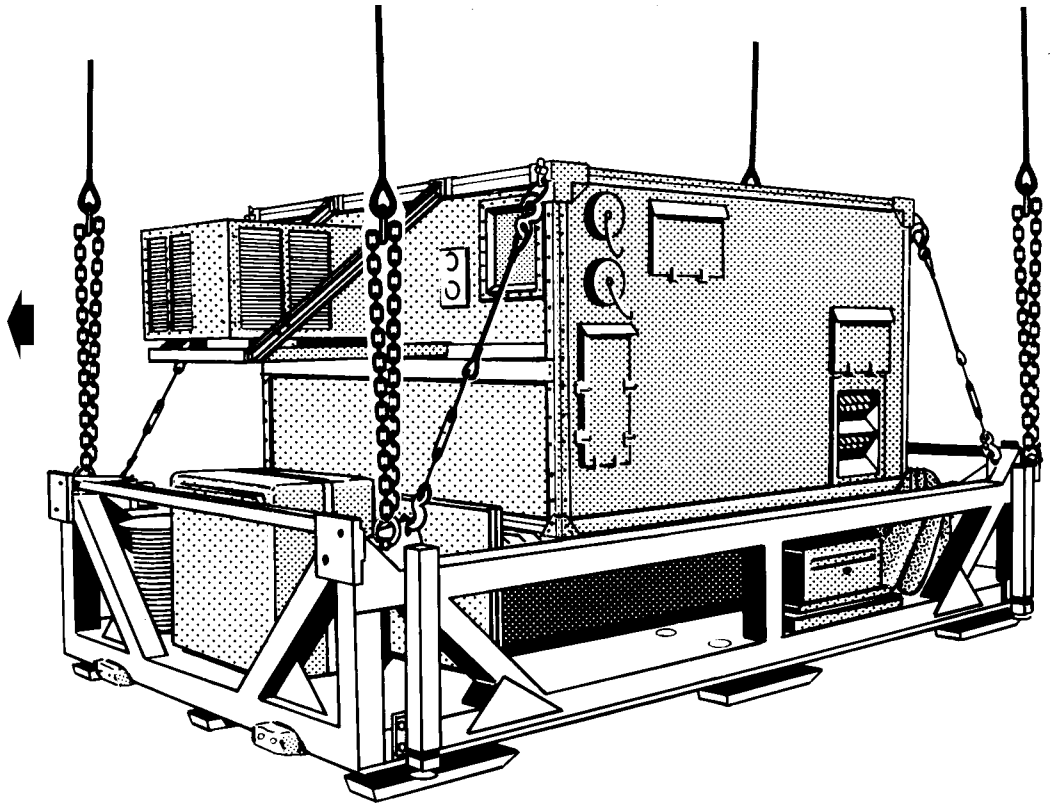
(2) Rigging. Rig the load according to the steps in Figure 10-10.

CAUTION
Do not use the lift provisions on the shelter.

(3) Hookup. Two hookup teams stand on the shelter. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

NOTE: Brief the helicopter crew to relax the sling leg tension and hover to the side of the load when releasing the apex fitting.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the shelter.

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the forward corners of the pallet. Place the correct link from Table 10-10 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the shelter.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the aft corners of the pallet. Place the correct link from Table 10-10 in the grab hook.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-10. NATO Airbase Satcom (NABS) Shelter Pallet, AN/TSC-93B(V)2

10-12. Trojan Air Transportable Electronic Reconnaissance System (TATERS) High Gain Antenna Group (HGAG) Shelter

a. Applicability. The following item in Table 10-11 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 10-11. Trojan Air Transportable Electronic Reconnaissance System (TATERS) High Gain Antenna Group (HGAG) Shelter

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Trojan Air Transportable Electronic Reconnaissance System (TATERS) High Gain Antenna Group (HGAG) Shelter	12,750	25K	3/20	CH-47	60

b. Materials. The following materials are required to rig this load:

(1) Sling set (25,000-pound capacity) with one additional apex fitting.

(a) Chain length, part number 38850-00053-102, from a 25,000-pound capacity sling set (8 each).

(b) Coupling link, part number 664241, from a 25,000-pound capacity sling set (8 each).

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 25 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all loose equipment with tape or Type III nylon cord.

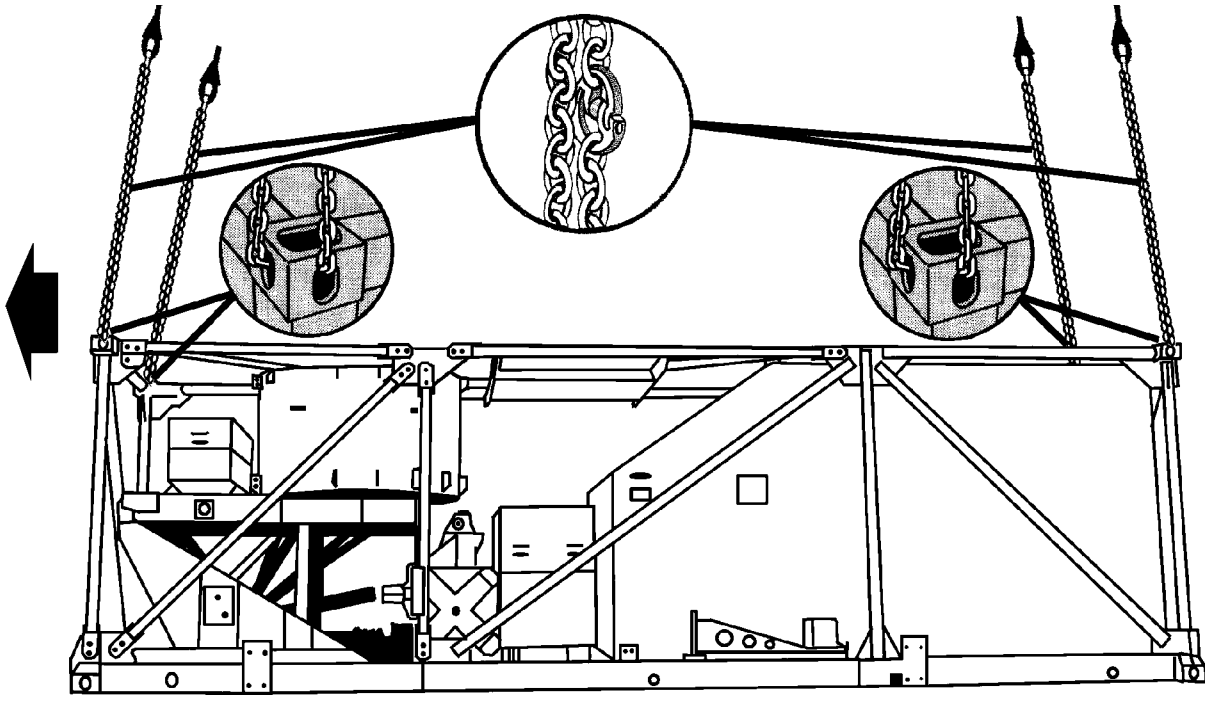
(b) Close and secure all doors, vents, and hatches with tape or Type III nylon cord.

(c) Add two additional chain lengths to each sling leg chain using the additional coupling links.

(2) Rigging. Rig the load according to the steps in Figure 10-11.

(3) Hookup. Two hookup teams stand on the HGAG. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the load and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the shelter.

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the forward corners. Place the correct link from Table 10-11 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the aft end of the shelter.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the aft corners of the shelter. Place the correct link from Table 10-11 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 10-11. Trojan Air Transportable Electronic Reconnaissance System (TATERS) High Gain Antenna Group (HGAG) Shelter